Chen, C. J.
09/740903

12/24/1997

09/740903

FILE 'HCAPLUS' ENTERED AT 10:40:34 ON 06 MAR 2003
L3 61327 SEA FILE=HCAPLUS ABB=ON PLU=ON ENZYME(5A)(PROTEIN OR POLYPROTEIN OR PEPTIDE OR POLYPEPTIDE OR ANTIBOD?)
L4 434 SEA FILE=HCAPLUS ABB=ON PLU=ON L3(5A)CARRIER
L5 39 SEA FILE=HCAPLUS ABB=ON PLU=ON L4(5A)(CONJUGAT? OR ?LINK?)

L5 ANSWER 1 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:814306 HCAPLUS
DOCUMENT NUMBER: 137:306644
TITLE: Immobilization of enzymes or bioactive proteins by spraying an enzyme together with a crosslinker onto a fibrous support and removal of lactose from milk using immobilized .beta.-galactosidase
INVENTOR(S): Chen, Xiao Dong; Zhou, Quinn Zhengkun
PATENT ASSIGNEE(S): Auckland Uniservices Limited, N. Z.
SOURCE: PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002083885	A1	20021024	WO 2002-NZ61	20020412

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: NZ 2001-511098 A 20010412
AB An immobilized bioactive material for use in an industrial process is made by spraying an active proteinaceous coating together with a crosslinking agent onto a fibrous org. support. Woven cotton provides good strength, a large surface area with interstices, and food process compatibility. Advantages of the finished component include simplicity, good retention of the bioactive material upon the support, and retention of a useful amt. of activity. A process for removal of lactose from cows' milk uses immobilized beta-galactosidase (EC 3.2.1.23) mixed with bovine serum albumin, cooled, mixed with glutaraldehyde, then sprayed onto a loose cotton cloth.
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:707240 HCAPLUS
DOCUMENT NUMBER: 137:231375
TITLE: Monoclonal antibody against aconitine complexed

with carrier protein
INVENTOR(S): Masayama, Yukihiro; Tanaka, Hiroyuki
PATENT ASSIGNEE(S): Alps Pharmaceutical Ind. Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002265500	A2	20020918	JP 2001-113279	20010306

PRIORITY APPLN. INFO.: JP 2001-113279 20010306

AB A method is provided to produce monoclonal antibody with complex of non-antigenic substances and carrier protein such as aconitine and bovine serum albumin. The hybridoma is established with fusion of myeloma and spleen cells from mouse immunized by the complex as antigen. This monoclonal antibody with high specificity and sensitivity is useful in quant. assays like ELISA.

L5 ANSWER 3 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:658977 HCAPLUS
DOCUMENT NUMBER: 138:53118
TITLE: Transcription factor AP-2 interacts with the SUMO-conjugating enzyme UBC9 and is sumolated in vivo
AUTHOR(S): Eloranta, Jyrki J.; Hurst, Helen C.
CORPORATE SOURCE: Molecular Oncology Unit, Cancer Research United Kingdom, Hammersmith Hospital, London, W12 0NN, UK
SOURCE: Journal of Biological Chemistry (2002), 277(34), 30798-30804
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The members of the AP-2 family of transcription factors are developmentally regulated and have distinct yet overlapping functions in the regulation of many genes governing growth and differentiation. All AP-2 factors appear to be capable of binding very similar DNA recognition sites, and the determinants of functional specificity remain to be elucidated. AP-2 transcription factors have been shown to act both as transcriptional activators and repressors in a promoter-specific manner. Although several mediators of their activation function have been suggested, few mechanisms for the repression or down-regulation of transactivation have been described. In a two-hybrid screen for proteins interacting with AP-2 factors, we have identified the UBC9 gene that encodes the E2 (ubiquitin **carrier protein**)-**conjugating enzyme** for the small ubiquitin-like modifier, SUMO. The interaction domain resides in the C-terminal half of AP-2, which contains the conserved DNA binding and dimerization domains. We have detected sumolated forms of endogenous AP-2 in mammalian cells and have further mapped the in vivo sumolation site to conserved lysine 10. Transient transfection studies indicate that sumolation of AP-2 decreases its transcription

activation potential, and we discuss the possible mechanisms for the obsd. suppression of AP-2 transactivation.
REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:574859 HCAPLUS
DOCUMENT NUMBER: 137:119651
TITLE: Site-specific in situ generation of allicin using a targeted alliinase delivery system for the treatment of cancers, tumors, infectious diseases and other allicin-sensitive diseases
INVENTOR(S): Rabinkov, Aharon; Miron, Talia; Mirelman, David; Wilchek, Meir
PATENT ASSIGNEE(S): Yeda Research and Development Co., Ltd., Israel; McInnis, Patricia
SOURCE: PCT Int. Appl., 68 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002058624	A2	20020801	WO 2001-US49384	20011226

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: IL 2000-140555 A 20001226
AB **Conjugates** of the **enzyme** alliinase with a **protein carrier** that targets the alliinase to specific cells are used in combination with alliin to produce allicin at a desired target site. The enzyme converts alliin to allicin at the target site to kill cancer cells or pathogens.

L5 ANSWER 5 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:353584 HCAPLUS
DOCUMENT NUMBER: 136:368467
TITLE: Ubiquitin conjugating enzyme RATL1d6 polypeptides, polynucleotides, and antibodies for diagnosing, preventing and treating neoplastic, immunol., developmental and neuronal diseases
INVENTOR(S): Bowen, Michael A.; Wu, Yuli; Yang, Wen-Ping; Finger, Joshua N.
PATENT ASSIGNEE(S): Bristol-Myers Squibb Company, USA
SOURCE: PCT Int. Appl., 169 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002036741	A2	20020510	WO 2001-US46559	20011029
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002025916	A5	20020515	AU 2002-25916	20011029

PRIORITY APPLN. INFO.:
US 2000-244688P P 20001030
US 2001-308706P P 20010730
WO 2001-US46559 W 20011029

AB The present invention describes a newly discovered ubiquitin conjugating enzyme homolog, called RATL1d6 herein, and its encoding polynucleotide, isolated and identified from activated T lymphocytes. Also described are expression vectors, host cells, agonists, antagonists, antisense mols., and antibodies assocd. with the activity and use of the newly-discovered polynucleotide and/or polypeptide of the present invention. Methods for treating, diagnosing, preventing and screening for disorders related to the expression of the RATL1d6 ubiquiting conjugating enzyme polypeptide, e.g. neoplastic, immunol., developmental and neuronal diseases, are described.

L5 ANSWER 6 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:100366 HCAPLUS
DOCUMENT NUMBER: 136:379626
TITLE: Nucleolar delocalization of human topoisomerase I in response to topotecan correlates with sumoylation of the protein
AUTHOR(S): Mo, Yin-Yuan; Yu, Yanni; Shen, Zhiyuan; Beck, William T.
CORPORATE SOURCE: Department of Molecular Genetics, University of Illinois, Chicago, IL, 60607, USA
SOURCE: Journal of Biological Chemistry (2002), 277(4), 2958-2964
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB DNA topoisomerase (topo) I is an essential nuclear protein and a target for anticancer drug camptothecin derivs. As a nuclear protein, topo I is concd. in the nucleolus. However, this nucleolar distribution of topo I is dynamic. It has been shown recently that topo I rapidly moves out of the nucleolus (nucleolar delocalization) in response to topo I inhibitors. In the present study, we

demonstrated that nucleolar delocalization of topo I is assocd. with its conjugation by SUMOs (small ubiquitin-like modifiers) in response to the topo I inhibitor topotecan. Time-course expts. revealed that SUMO-topo I conjugation occurred at as early as 5 min after drug treatment, which was earlier than its obsd. nucleolar delocalization. Furthermore, heat shock blocked sumoylation of topo I; it also blocked the nucleolar delocalization of topo I fusion proteins. UBC9 is an E2 (ubiquitin **carrier protein**)-**conjugating enzyme** essential for sumoylation. Although overexpression of wild-type UBC9 enhanced both sumoylation and nuclear delocalization of topo I, overexpression of a UBC9 dominant neg. mutant attenuated topo I sumoylation and its nucleolar delocalization. Taken together, our results suggest that sumoylation of topo I might serve as an addressing tag for its nucleolar delocalization in response to topo I inhibitors.

REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 7 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:919073 HCAPLUS
DOCUMENT NUMBER: 136:52723
TITLE: immunoassay reagent for detecting trace amount of antigen in samples
INVENTOR(S): Akamine, Takayuki
PATENT ASSIGNEE(S): Sekisui Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001349893	A2	20011221	JP 2000-170783	20000607

PRIORITY APPLN. INFO.: JP 2000-170783 20000607

AB This invention provides a highly sensitive and specific immunoassay reagent for detecting trace amt. of antigen in sample using an automatic analyzer without the need of sepg. bound and free form antigen and antibody. The reagents comprise a **conjugate** of antigen-specific **antibody**/Fc-specific **carrier** protein/**enzyme**-specific antibody, an enzyme, and a substrate. Thus, conjugates of anti-hepatitis B surface antigen antibody and anti-peroxidase antibody and protein A were prepd. and used with a peroxidase soln. , a substrate soln. contg. N-ethyl-N-(2-hydroxy-3-sulfo-propyl-)3,5-dimethoxy aniline, and a std. hepatitis B surface antigen soln. for detecting HBsAg pos. serum.

L5 ANSWER 8 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:763025 HCAPLUS
DOCUMENT NUMBER: 135:335111
TITLE: Albumin fusion proteins with therapeutic proteins for improved shelf-life
INVENTOR(S): Rosen, Craig A.; Haseltine, William A.
PATENT ASSIGNEE(S): Human Genome Sciences, Inc., USA

SOURCE: PCT Int. Appl., 2102 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001077137	A1	20011018	WO 2001-US11988	20010412
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1276756	A1	20030122	EP 2001-944114	20010412
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				

PRIORITY APPLN. INFO.: US 2000-229358P P 20000412
US 2000-199384P P 20000425
US 2000-256931P P 20001221
WO 2001-US11988 W 20010412

AB The present invention encompasses fusion proteins of albumin with various therapeutic proteins. Therapeutic proteins may be stabilized to extend the shelf-life, and/or to retain the therapeutic protein's activity for extended periods of time in soln., in vitro and/or in vivo, by genetically or chem. fusing or conjugating the therapeutic protein to albumin or a fragment or variant of albumin. Use of albumin fusion proteins may also reduce the need to formulate the protein solns. with large excesses of carrier proteins to prevent loss of therapeutic proteins due to factors such as binding to the container. Nucleic acid mols. encoding the albumin fusion proteins of the invention are also encompassed by the invention, as are vectors contg. these nucleic acids, host cells transformed with these nucleic acids vectors, and methods of making the albumin fusion proteins of the invention and using these nucleic acids, vectors, and/or host cells. Thus, plasmid vectors are constructed in which DNA encoding the desired therapeutic protein may be inserted for expression of the albumin fusion proteins in yeast (pPPC0005) and mammalian cells (pC4:HSA). Yeast-derived signal sequences from Saccharomyces cerevisiae invertase SUC2 gene, or the stanniocalcin or native human serum albumin signal peptides, are used for secretion in yeast or mammalian systems, resp. Thus, the fusion product of human growth hormone with residues 1-387 of human serum albumin retains essentially intact biol. activity after 5 wk of incubation in tissue culture media at 37.degree., whereas recombinant human growth hormone used as control lost its biol. activity in the first week. Although the potency of the albumin fusion proteins is slightly lower than the unfused counterparts in rapid bioassays, their biol. stability results in much higher biol. activity in the longer term in vitro assay or in vivo assays. Addnl., the present invention

encompasses pharmaceutical compns. comprising albumin fusion proteins and methods of treating, preventing, or ameliorating diseases, disorders or conditions using albumin fusion proteins of the invention.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 9 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:680336 HCAPLUS
DOCUMENT NUMBER: 135:312916
TITLE: Evaluation of enzyme-linked immunoassays for the determination of chloroacetanilides in water and soils
AUTHOR(S): Casino, Patricia; Morais, Sergi; Puchades, Rosa; Maquieira, Angel
CORPORATE SOURCE: Departamento de Quimica, Universidad Politecnica de Valencia, Valencia, 46022, Spain
SOURCE: Environmental Science and Technology (2001), 35(20), 4111-4119
CODEN: ESTHAG; ISSN: 0013-936X
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Reliable and sensitive indirect ELISAs for the quant. detn. of metolachlor, alachlor, and acetochlor were developed. Each herbicide was conjugated to a carrier protein via thioether linkage, and the product was used either as an immunogen or to prep. coating conjugates. The suitability of using the same chem. strategy to raise polyclonal antibodies against chloroacetanilides structurally related compds. and their metabolites is discussed. Under best conditions, detection limits of 0.06, 0.3, and 0.4 .mu.g/L for metolachlor, alachlor, and acetochlor were reached, resp. The optimized ELISAs were also highly specific, showing little or no cross-reactivity to other similar compds. Immunoassays were used as a tool to det. crit. chloroacetanilide herbicides in water and soil samples without purifn. steps. The excellent recoveries obtained (mean value ranging between 90% and 98%) confirm the potential of this approach to control these herbicides in the environment being applied as a screening method either for field monitoring or lab.
REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 10 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:208443 HCAPLUS
DOCUMENT NUMBER: 134:233998
TITLE: Implantable glucose sensor or other sensor having crosslinked oxidase and oxygen-dissolving substance
INVENTOR(S): Clark, Leland C., Jr.
PATENT ASSIGNEE(S): Implanted Biosystems, Inc., USA
SOURCE: PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001020019	A2	20010322	WO 2000-US40888	20000913
WO 2001020019	A3	20020117		
WO 2001020019	C2	20020829		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1214586	A2	20020619	EP 2000-984516	20000913

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL

US 2002068860	A1	20020606	US 2002-58453	20020128

PRIORITY APPLN. INFO.: US 1999-395466 A 19990914
WO 2000-US40888 W 20000913

AB The sensitivity of enzyme-based polarog. electrodes to oxygen concn. can be significantly reduced or eliminated by providing an oxygen-reservoir in intimate contact with the oxidative enzyme. This is achieved by making a stabilized emulsion between the enzyme and a compd. in which oxygen is extremely sol. An aq. glucose oxidase soln. is emulsified with a perfluorocarbon liq., and the resulting emulsion is stabilized by chem. crosslinking the mixt. to form a gel. Thin layers of the emulsion are fabricated by spreading a layer of the liq. emulsion before gelation occurs. Addnl. carrier proteins such as albumin may be added to the enzyme prior to crosslinking to protect enzymic activity and enhance gel strength. Addnl. electron transport compds. may be added to further reduce sensitivity to oxygen concn.

L5 ANSWER 11 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:75289 HCAPLUS
DOCUMENT NUMBER: 134:127830
TITLE: Cloning and sequences of human and clam ubiquitin conjugating E2 enzyme, and screening of the E2 inhibitors
INVENTOR(S): Ruderman, Joan V.; Hershko, Avram; Kirschner, Marc W.; Townsley, Fiona; Aristarkov, Alexander; Eytan, Esther; Yu, Hongtao
PATENT ASSIGNEE(S): President and Fellows of Harvard University, USA
SOURCE: U.S., 53 pp., Cont.-in-part of U.S. Ser. No. 820,693.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6180379	B1	20010130	US 1997-828533	19970331
US 2002086401	A1	20020704	US 2001-772156	20010129

US 6528633 B2 20030304
PRIORITY APPLN. INFO.: US 1996-14492P P 19960401
US 1997-820693 A2 19970318
US 1997-828533 A3 19970331

AB Disclosed are novel human and clam ubiquitin **conjugating enzyme/carrier protein** E2, or Ubc, involved in the ubiquitination of cyclins A and/or B. This invention also provides inhibitors of such Ubc's and to kits for and methods of screening for compds. which inhibit the ubiquitination, and hence the destruction, of cyclins. The cDNAs for human and Spisula solidissima ubiquitin **conjugating enzyme /carrier protein** E2 were cloned and sequenced.

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 12 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:605326 HCAPLUS
DOCUMENT NUMBER: 134:27160
TITLE: **Carrier-Linked Peptides** as a Reference Compound in **Enzyme-Linked** Immunosorbent Assays
AUTHOR(S): Gijsbers, Birgit L. M. G.; Vermeer, Cees
CORPORATE SOURCE: Department of Biochemistry and Cardiovascular Research Institute, University of Maastricht, Maastricht, 6200 MD, Neth.
SOURCE: Analytical Biochemistry (2000), 284(2), 430-432
CODEN: ANBCA2; ISSN: 0003-2697
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Most test kits contain a calibrator of precisely known concn., which is measured in varying dilns. to construct a calibration curve with which the concn. of a biomarker in unknown samples may be assessed. In this paper, we restrict ourselves to those cases in which the biomarker is a protein. Sometimes the inclusion of the authentic protein as a calibrator for the kit may raise problems: the protein may be rare, unstable, hard to purify, or poorly sol. in water. Although other techniques may be applied, test kits are often based on the sandwich-ELISA principle in which a first antibody is coated to a microtiter plate and serves to capture the biomarker from soln., whereafter a second antibody (conjugated with a staining enzyme) is bound to the biomarker. If both epitopes to which these (generally monoclonal) antibodies bind are known, the std. for calibration may in principle be replaced by a carrier protein linked to short synthetic peptides homologous to the resp. epitopes. We have investigated this possibility for the human bone protein osteocalcin, using bovine serum albumin as a carrier protein to which the amino acid sequences 1-16 and 29-43 of human osteocalcin were coupled. We will designate this construct as alb-OC. The characteristics of alb-OC were measured with the aid of a com. osteocalcin sandwich-ELISA, both antibodies of which were reported to be selected for recognition of the two sequences mentioned. (c) 2000 Academic Press.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 13 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:440164 HCAPLUS
DOCUMENT NUMBER: 133:72936
TITLE: Antibody or antigen for immunoassay
INVENTOR(S): Ohnaka, Satoru; Kaneko, Takashi; Ishiguro, Takahiko
PATENT ASSIGNEE(S): Tosoh Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000180449	A2	20000630	JP 1998-355855	19981215

PRIORITY APPLN. INFO.: JP 1998-355855 19981215

AB A first antibody (antigen) conjugated with ligand (receptor), a labeled second antibody (antigen), and a carrier-immobilized receptor (ligand) are provided for detn. of analyte antigen (antibody) with enhanced reaction rate and sensitivity. Thus, prepd. were biotin-labeled anti-TSH monoclonal antibody F(ab')2, alk. phosphatase-labeled monoclonal antibody Fab' recognizing different epitope of TSH, and glass bead-immobilized streptavidin. These reagents were used for TSH detn. by chemiluminescent immunoassay.

L5 ANSWER 14 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:289759 HCAPLUS
DOCUMENT NUMBER: 132:278165
TITLE: Anti-petasin antibodies, a procedure for their production and their use
INVENTOR(S): Schoessler, Werner; Hentschel, Christian; Tack, Vivianne
PATENT ASSIGNEE(S): Max Zeller & Soehne A.-G., Switz.
SOURCE: Ger. Offen., 4 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19856777	A1	20000504	DE 1998-19856777	19981130
WO 2000026255	A1	20000511	WO 1999-DE3525	19991101

W: AE, AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CR, CU, CZ, DM, EE, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, RO, RU, SD, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1124853	A1	20010822	EP 1999-962045	19991101

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

JP 2002528557 T2 20020903 JP 2000-579641 19991101

PRIORITY APPLN. INFO.: DE 1998-19850011 A1 19981030
DE 1998-19856777 A 19981130
WO 1999-DE3525 W 19991101

AB The invention concerns anti-petasin antibodies for detection of petasin or petasin-protein conjugates in physiol. liqs., which do not cross-react against derivs., structural analogs, or metabolites of petasin. The invention also discusses a method for their prodn. by means of immunization of petasin deriv., which is preferably carrier-mol.-coupled as well as their use and a test kit. The examples discuss the prodn. of the petasin-**carrier** mol. **conjugates**, prodn. of the **antibodies** by immunization, and the **enzyme** immunoassay.

L5 ANSWER 15 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:205704 HCAPLUS
DOCUMENT NUMBER: 132:250013
TITLE: Method for preparation of enzyme-antibody conjugate
INVENTOR(S): Ohbayashi, Koichi; Kitano, Yuriko; Kito, Takashi
PATENT ASSIGNEE(S): Nichirei Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000088850	A2	20000331	JP 1998-279319	19980916
EP 992794	A2	20000412	EP 1999-105375	19990316
EP 992794	A3	20000419		
EP 992794	B1	20021113		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

US 6252053 B1 20010626 US 1999-268748 19990317

PRIORITY APPLN. INFO.: JP 1998-279319 A 19980916

AB Provided is a method for prepn. of enzyme-antibody conjugate by introducing maleimide group and thiol group into enzyme mol., coupling to carriers (e.g. polylysine, aminodextran, etc.), and then conjugating with thiol group-contg. or reduced antibody or antibody fragment. The prepd. enzyme-labeled antibodies are useful for immunohistochem. staining or enzyme immunoassay with high sensitivity.

L5 ANSWER 16 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:719018 HCAPLUS
DOCUMENT NUMBER: 131:348529
TITLE: Ubiquitin-conjugating enzyme from human and its role in E6-stimulated p53 degradation
INVENTOR(S): Draetta, Giulio; Rolfe, Mark; Eckstein, Jens W.
PATENT ASSIGNEE(S): Mitotix, Inc., USA
SOURCE: U.S., 85 pp., Cont.-in-part of U.S. Ser. No. 176,937, abandoned.
CODEN: USXXAM

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5981699	A	19991109	US 1994-247904	19940523
US 5744343	A	19980428	US 1994-305520	19940913
CA 2179537	AA	19950713	CA 1995-2179537	19950104
WO 9518974	A2	19950713	WO 1995-US164	19950104
W: AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9518669	A1	19950801	AU 1995-18669	19950104
AU 695944	B2	19980827		
EP 738394	A1	19961023	EP 1995-910861	19950104
EP 738394	B1	20000517		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
AT 193123	E	20000615	AT 1995-910861	19950104
US 5968761	A	19991019	US 1995-486663	19950607
US 6068982	A	20000530	US 1996-767942	19961217

PRIORITY APPLN. INFO.:

US 1994-176937	B2	19940104
US 1994-247904	A2	19940523
US 1994-250795	A	19940527
US 1994-305520	A	19940913
WO 1995-US164	W	19950104
US 1995-486663	A1	19950607

AB The present invention concerns a ubiquitin-conjugating enzyme (UbCE) from human. Human UbCE cDNA is cloned and sequenced. In addn., the 3-dimensional coordinates of the protein backbone from the structure of UBC1 from Arabidopsis thaliana were used for homol modeling of human UbCE; this 3-dimensional information can be used for the design of inhibitory peptides or peptidomimetics. Inhibition of these enzymes in vivo leads to an inhibition of E6-stimulated p53 degrdn. The level of inhibition achieved in microinjection expts. was 25-30%. E6 is shown to be abs. required for ubiquitination of p53 in in vitro and in vivo assay systems. The present invention makes available diagnostic and therapeutic assays and reagents for detecting and treating transformed cells, such as may be useful in the detection of cancer. The present invention also provides reagents for altering the normal regulation cell proliferation in untransformed cells, such as by upregulating certain cell-cycle checkpoints, e.g. to protect normal cells against DNA damaging reagents.

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 17 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:7864 HCAPLUS
DOCUMENT NUMBER: 130:57176
TITLE: Pharmaceutical compositions containing antibody-enzyme conjugates in combination with prodrugs
INVENTOR(S): Duncan, Ruth; Satchi, Ronit
PATENT ASSIGNEE(S): The School of Pharmacy, University of London, UK

WO 9906446 A3 19990408
W: US
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
EP 1001992 A2 20000524 EP 1998-945120 19980730
R: BE, CH, DE, FR, GB, LI
PRIORITY APPLN. INFO.: DE 1997-19732917 19970730
WO 1998-EP4768 19980730

AB The invention concerns the immobilization of peptides and proteins onto a carrier using transglutaminase while maintaining at least 50% of their biol. activity. Carriers and proteins are acyl-group and/or amino-group donors and act as transglutaminase substrates; their are glutamine, lysine donors or acceptors. Carriers are bioactive materials, their are either sol. or insol., e.g. gelatine or casein. Immobilized proteins and peptides are native, synthetic, recombinant etc. Reaction conditions are pH 5-9, 20-60 .degree.C, and the molar ratio of protein or peptide to carrier varies from 5:1 to 1:100. The products are immobilized protein or **carrier -protein conjugates**; they are used for **enzyme** assays, immunodiagnosis, sequencing, microtiterplates, active membranes, and biosensors.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 19 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:706222 HCAPLUS
DOCUMENT NUMBER: 127:327469
TITLE: Human and clam ubiquitin conjugating enzyme E2 (Ubc) and its cDNA, inhibitors of Ubc, and their therapeutic use
INVENTOR(S): Rudderman, Joan V.; Hershko, Avram; Kirschner, Marc W.; Townsley, Fiona; Aristarkov, Alexander; Eytan, Esther; Yu, Hongtao
PATENT ASSIGNEE(S): Harvard College, USA
SOURCE: PCT Int. Appl., 137 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9737027	A1	19971009	WO 1997-US5296	19970331
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2250849	AA	19971009	CA 1997-2250849	19970331
AU 9726006	A1	19971022	AU 1997-26006	19970331
AU 732547	B2	20010426		
EP 900276	A1	19990310	EP 1997-917760	19970331
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,				

PT, IE, FI

BR 9710415	A	19990817	BR 1997-10415		19970331
JP 2002503949	T2	20020205	JP 1997-535532		19970331
KR 2000005413	A	20000125	KR 1998-708147		19980930
MX 9808070	A	20000630	MX 1998-8070		19980930
PRIORITY APPLN. INFO.:			US 1996-14492P	P	19960401
			US 1997-820639	A	19970318
			US 1997-820693	A	19970318
			WO 1997-US5296	W	19970331

AB Disclosed are novel human and clam ubiquitin carrier polypeptides involved in the ubiquitination of cyclins A and/or B. Also disclosed are inhibitors of such polypeptides, nucleic acids encoding such polypeptides and inhibitors, and methods of their use. The cDNAs for human and Spisula solidissima ubiquitin **conjugating enzyme/carrier protein** E2, or Ubc, were cloned and sequenced. Dominant neg. mutants of the enzymes were produced and shown to inhibit cyclin A/B ubiquitination and degrdn. In the mutants, Cys-114 was replaced with Ser.

L5 ANSWER 20 OF 39 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER:	1996:41584 HCAPLUS
DOCUMENT NUMBER:	124:80327
TITLE:	Isolation, characterization, and partial purification of a novel ubiquitin-protein ligase, E3. Targeting of protein substrates via multiple and distinct recognition signals and conjugating enzymes
AUTHOR(S):	Gonen, Hedva; Stancovski, Ilana; Shkedy, Dganit; Hadari, Tamar; Bercovich, Beatrice; Bengal, Eyal; Mesilati, Shlomit; Abu-Hatoum, Ossama; Schwartz, Alan L.; Ciechanover, Aaron
CORPORATE SOURCE:	Faculty Medicine, Technion-Israel Institute Technology, Haifa, 31096, Israel
SOURCE:	Journal of Biological Chemistry (1996), 271(1), 302-10 CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER:	American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB Degrdn. of a protein via the ubiquitin system involves two discrete steps, conjugation of ubiquitin to the substrate and degrdn. of the adduct. Conjugation follows a three-step mechanism. First, ubiquitin is activated by the ubiquitin-activating enzyme, E1. Following activation, one of several E2 **enzymes** (ubiquitin-**carrier proteins** or ubiquitin-**conjugating enzymes**, UBCs) transfers ubiquitin from E1 to the protein substrate that is bound to one of several ubiquitin-protein ligases, E3s. These enzymes catalyze the last step in the process, covalent attachment of ubiquitin to the protein substrate. The binding of the substrate to E3 is specific and implies that E3s play a major role in recognition and selection of proteins for conjugation and subsequent degrdn. So far, only a few ligases have been identified, and it is clear that many more have not been discovered yet. Here, the authors describe a novel ligase that is involved in the conjugation and degrdn. of non "N-end rule" protein substrates such as actin, troponin T, and MyoD. This

substrate specificity suggests that the enzyme may be involved in degrdn. of muscle proteins. The ligase acts in concert with E2-F1, a previously described non N-end rule UBC. Interestingly, it is also involved in targeting lysozyme, a bona fide N-end rule substrate that is recognized by E3.alpha. and E2-14 kDa. The novel ligase recognizes lysozyme via a signal(s) that is distinct from the N-terminal residue of the protein. Thus, it appears that certain proteins can be targeted via multiple recognition motifs and distinct pairs of conjugating enzymes. The authors have purified the ligase .apprx.200-fold and demonstrated that it is different from other known E3s, including E3.alpha./UBR1, E3.beta., and E6-AP. The native enzyme has an apparent mol. mass of .apprx.550 kDa and appears to be a homodimer. Because of its unusual size, the authors designated this novel ligase E3L (large). E3L contains an -SH group that is essential for its activity. Like several recently described E3 enzymes, including E6-AP and the ligase involved in the processing of p105, the NF-.kappa.B precursor, the novel ligase is found in mammalian tissues but not in wheat germ.

L5 ANSWER 21 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:468709 HCAPLUS
DOCUMENT NUMBER: 122:209240
TITLE: Fluorescent immunoassay with immobilized antibody for antigen determination
INVENTOR(S): Nanba, Akihiro; Takahashi, Takeo
PATENT ASSIGNEE(S): Olympus Optical Co, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07012816	A2	19950117	JP 1993-157186	19930628

PRIORITY APPLN. INFO.: JP 1993-157186 19930628
AB Disclosed is an immunoassay for antigen detn. by using carrier-immobilized antibody and enzyme-labeled antibody and fluorescent substrate, and by measuring the fluorescence change over a period of time. In example, for hepatitis B surface (HBs) antigen detn., anti-HBs antibody immobilized on the surface of reaction chamber, alk. phosphatase-labeled anti-HBs antibody, and fluorescent substrate for phosphatase , i.e. AMPPD, were used, the fluorescence generation was measured over a period of 17 min, and least-squares statistical anal.was used to det. the amt. of antigen.

L5 ANSWER 22 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:416321 HCAPLUS
DOCUMENT NUMBER: 122:207008
TITLE: Ubiquitin conjugating enzyme (E2) fusion proteins and their use in the control of the degradation of proteins
INVENTOR(S): Vierstra, Richard David; Gosink, Mark Matthew
PATENT ASSIGNEE(S): Wisconsin Alumni Research Foundation, USA
SOURCE: Eur. Pat. Appl., 30 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 626450	A2	19941130	EP 1994-303903	19940531
EP 626450	A3	19960501		
R: BE, CH, DE, ES, FR, GB, IE, IT, LI				
JP 07147987	A2	19950613	JP 1994-115081	19940527
US 5851791	A	19981222	US 1995-533298	19950925
PRIORITY APPLN. INFO.:			US 1993-70157	19930528

AB A novel class of fusion proteins based on the ubiquitin carrier protein, or E2, is described. The fusion proteins include the E2 activity and a domain that specifically binds another protein. Under cytosolic conditions such E2 fusions will add a ubiquitin moiety to a target protein. Since ubiquitin addn. triggers the endogenous cellular protein degrdn. pathway, such E2 fusion proteins can be used to selectivity target proteins in a host for degrdn. E2 fusion protein genes can be introduced into transgenic organisms to defeat or inhibit natural activities or traits. The E2 fusion proteins can also be introduced directly into hosts for similar effects. The construction of chimeric genes for fusion proteins of the E2 proteins of wheat or Arabidopsis thaliana and a no. of proteins, including the c-myc protein and transforming growth factor .alpha. are demonstrated.

L5 ANSWER 23 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:603373 HCAPLUS
DOCUMENT NUMBER: 121:203373
TITLE: Role of ATP-ubiquitin-dependent proteolysis and inhibitors on MHC-1-restricted antigen presentation
INVENTOR(S): Goldberg, Arthur L.; Rock, Kenneth L.
PATENT ASSIGNEE(S): Harvard College, USA; Dana Farber Cancer Institute
SOURCE: PCT Int. Appl., 87 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9417816	A1	19940818	WO 1994-US1183	19940127
W: AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, LV, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, UZ, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2155554	AA	19940818	CA 1994-2155554	19940127
AU 9461691	A1	19940829	AU 1994-61691	19940127
AU 676721	B2	19970320		
EP 684829	A1	19951206	EP 1994-908690	19940127
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 08507754	T2	19960820	JP 1994-518184	19940127

PRIORITY APPLN. INFO.: US 1993-16066 19930210
WO 1994-US1183 19940127

AB Disclosed are methods for ATP-ubiquitin-dependent proteolysis inhibition (i.e. by inhibiting proteasome protease, ubiquitin **conjugation**, ubiquitin-activating **enzyme**, ubiquitin-**carrier protein**, or ubiquitin-**protein** ligase), and for MHC-1-restricted antigen presentation inhibition. Also claimed are ATP-ubiquitin-dependent proteolytic pathway inhibitors (e.g. chymostatin, leupeptin, ubiquitin adenylate) which can inhibit MHC-1-restricted antigen presentation, and therefore useful for the treatment of autoimmune diseases and for reducing rejection of organs and graft transplants. In example, regulation of peptidase activities of proteasomes by .gamma.-IFN and MHC gene, inhibition of MHC-1-restricted antigen presentation by a defect in ubiquitin conjugation and by chymostatin, and isolation of an endogenous inhibitor of the proteasome were described.

L5 ANSWER 24 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:527994 HCAPLUS
DOCUMENT NUMBER: 121:127994
TITLE: Complete reconstitution of conjugation and subsequent degradation of the tumor suppressor protein p53 by purified components of the ubiquitin proteolytic system
AUTHOR(S): Shkedy, Dganit; Gonen, Hedva; Bercovich, Beatrice; Ciechanover, Aaron
CORPORATE SOURCE: Department of Biochemistry and the Rappaport Institute for Research in the Medical Sciences, Faculty of Medicine, Technion-Israel Institute of Technology, PO Box 9649, Haifa, 31096, Israel
SOURCE: FEBS Letters (1994), 348(2), 126-30
CODEN: FEBLAL; ISSN: 0014-5793
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The wild-type tumor suppressor protein p53 is a short-lived protein that plays important roles in regulation of cell cycle, differentiation, and survival. Mutations that inactivate or alter the tumor suppressor activity of the protein seem to be the most common genetic change in human cancer and are frequently assocd. with changes in its stability. The ubiquitin system has been implicated in the degrdn. of p53 both in vivo and in vitro. A mutant cell line that harbors a thermolabile ubiquitin-activating enzyme, E1, fails to degrade p53 at the nonpermissive temp. Studies in cell-free exts. have shown that covalent attachment of ubiquitin to the protein requires the three conjugating enzymes: E1; a novel species of ubiquitin-**carrier protein** (ubiquitin-**conjugating enzyme**; UBC), E2-F1; and an ubiquitin-protein ligase, E3. Recognition of p53 by the ligase is facilitated by formation of a complex between the protein and the human papillomavirus (HPV) oncoprotein E6. Therefore, the ligase has been designated E6-assocd. protein (E6-AP). However, these in vitro studies have not demonstrated that the conjugates serve as essential intermediates in the proteolytic process. In fact, in many cases, conjugation of ubiquitin to the target protein does not signal its degrdn. Thus, it is essential to demonstrate that p53-ubiquitin adducts serve as essential proteolytic intermediates and are recognized and degraded by the 26S protease complex, the

proteolytic arm of the ubiquitin pathway. In this study, the authors demonstrate that conjugates of p53 generated in the presence of purified E1, E2, E6-AP, E6, ubiquitin and ATP, are specifically recognized by the 26S protease complex and degraded. In contrast, unconjugated p53 remains stable. The ability to reconstitute the system from purified components will enable detailed anal. of the recognition process and the structural motifs involved in targeting the protein for degrdn.

L5 ANSWER 25 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:452478 HCAPLUS
DOCUMENT NUMBER: 121:52478
TITLE: Purification and characterization of a novel species of ubiquitin-carrier protein, E2, that is involved in degradation of non-"N-end rule" protein substrates
AUTHOR(S): Blumenfeld, Nava; Gonen, Hedva; Mayer, Arie; Smith, Christine E.; Siegel, Ned R.; Schwartz, Alan L.; Ciechanover, Aaron
CORPORATE SOURCE: Fac. Med., Technion-Israel Inst. Technol., Haifa, 31096, Israel
SOURCE: Journal of Biological Chemistry (1994), 269(13), 9574-81
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Ubiquitin-**carrier proteins** (E2s, ubiquitin-**conjugating enzymes**, UBCs) participate in proteolysis by catalyzing transfer of activated ubiquitin to the protein substrates, which are bound to specific ubiquitin-protein ligases (E3s). Yeast UBC2 (RAD6) and the mammalian E214kDa bind to the ligase that recognizes and is involved in the degrdn. of certain free amino-terminal substrates ("N-end rule" substrates). As such proteins are rather scarce, the role of these E2s in general proteolysis is probably limited. Here, the authors report the purifn. and characterization of a novel 18-kDa species of E2 from rabbit reticulocytes. Unlike most members of the E2 family, this enzyme does not adsorb to anion exchange resin at neutral pH, and it is purified from the unadsorbed material (Fraction 1). Thus, it is designated E2-F1. Like all members of the E2 family, it generates a thiol ester with ubiquitin that serves as an intermediate in the conjugation reaction. Sequence anal. revealed a significant homol. to many known species of E2s. The enzyme generates multiply ubiquitinated proteins in the presence of an E3 that has not been characterized yet. Most importantly, the ubiquitination via this E2 leads to the degrdn. of certain non-"N-end rule" substrates such as glyceraldehyde-3-phosphate dehydrogenase (Val at the NH2 terminus) and to the ubiquitination and degrdn. of certain N-.alpha.-acetylated proteins such as histone H2A, actin, and .alpha.-crystallin. The enzyme is also involved in the conjugation and degrdn. of the tumor suppressor protein p53.

L5 ANSWER 26 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:549439 HCAPLUS
DOCUMENT NUMBER: 117:149439
TITLE: Production of peptide or protein as fusion proteins
INVENTOR(S): Yamamoto, Hiroaki; Yamashita, Kunihiko

PATENT ASSIGNEE(S): M and D Research Co., Ltd., Japan
SOURCE: PCT Int. Appl., 53 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9206211	A1	19920416	WO 1991-JP239	19910225
W: CA, US				
RW: CH, DE, FR, GB, SE				
JP 04148694	A2	19920521	JP 1990-271880	19901009
JP 07108232	B4	19951122		
CA 2070781	AA	19920410	CA 1991-2070781	19910225
EP 591524	A1	19940413	EP 1991-904654	19910225
R: CH, DE, FR, GB, LI, SE				
US 5506120	A	19960409	US 1994-243082	19940516

PRIORITY APPLN. INFO.: JP 1990-271880 19901009
WO 1991-JP239 19910225
US 1992-853754 19920605

OTHER SOURCE(S): MARPAT 117:149439

AB A fusion protein (markush structure given) contg. a **carrier protein**, .gtoreq.1 **enzyme** cleavable **peptide** sequences as **linkers**, and desired peptide in tandem repeat (markush structure given). Construction of expression plasmid pMD500R5 encoding a fusion protein of protein A-linkers-5 VIP units (vasoactive intestinal polypeptide) was shown. The plasmid was transformed into Bacillus subtilis SPL14 for fermn. of the fusion protein. Also shown was the prepn. of VIP from the fusion protein by incubation with basic amino acid-specific protease, blood coagulation factor Xa, and kallikrein.

L5 ANSWER 27 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1991:203149 HCAPLUS
DOCUMENT NUMBER: 114:203149
TITLE: Methods for carrier association, sample separation, and carrier dissociation for rapid and sensitive antibody or antigen detection
INVENTOR(S): Ishikawa, Eiji; Tanaka, Satoshi
PATENT ASSIGNEE(S): Sumitomo Pharmaceuticals Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02198361	A2	19900806	JP 1989-17873	19890128

PRIORITY APPLN. INFO.: JP 1989-17873 19890128

AB A procedure involving (1) assocn. of a functional group-recognizing carrier, the functional group-contg. antigen, test antibody, and a labeled antigen; (2) sepn. of the carrier-antigen-antibody-label complex from the sample; and (3) dissocn. of the antibody-antigen-label conjugate from the carrier complex and

detection of the activity of the label is used for a fast and highly sensitive antibody assay. Thus, thyroglobulin-.beta.-D-galactosidase, dinitrophenyl-thyroglobulin, and rabbit anti-dinitrophenyl albumin-polystyrene bead conjugates were prepd. to form a complex with anti-thyroglobulin antibody in serum of a patient with Basedow's disease. Dinitrophenyllysine was also prepd. to dissoc. .beta.-D-galactosidase **conjugate** from the **carrier** complex for **enzyme** activity assay and **antibody** detn.

L5 ANSWER 28 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1990:607363 HCAPLUS
DOCUMENT NUMBER: 113:207363
TITLE: A 25-kilodalton ubiquitin carrier protein (E2) catalyzes multi-ubiquitin chain synthesis via lysine 48 of ubiquitin
AUTHOR(S): Chen, Zhijian; Pickart, Cecile M.
CORPORATE SOURCE: Dep. Biochem., State Univ. New York, Buffalo, NY, 14214, USA
SOURCE: Journal of Biological Chemistry (1990), 265(35), 21835-42
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Target protein multi-ubiquitination involving lysine 48 of ubiquitin (Ub) is known to occur during protein degrdn. in the ATP- and Ub-dependent proteolytic pathway. However, little is known about the enzymic mechanism of multi-ubiquitination. It is shown that a purified Ub-carrier protein, E225K catalyzes multi-Ub chain synthesis from purified Ub. Incubation of E225K with Ub-activating enzyme (E1), MgATP, and radiolabeled Ub (Mr = 8500) resulted in time-dependent appearance of a ladder of radiolabeled Ub conjugates with mol. masses of 8.5n kDa, where n = 1, 2, 3, 4, ... (up to .gtoreq. n = 10). The kinetics of this conjugative process were consistent with Ub2 acting as a steady-state intermediate. The putative Ub2 product of E225K catalysis was purified and cleaved with a partially purified isopeptidase prepn., The sole cleavage product (Mr = 8500) had a tryptic digest identical to that of authentic Ub, confirming that the original conjugate was Ub2. Tryptic digestion of intact Ub2 gave products consistent with the existence of an isopeptide linkage between the COOH terminus of one Ub and lysine (Lys)-48 of the other; this structure was confirmed by sequence anal. of the unique Ub2 tryptic fragment. Tryptic digestion of higher order Ubn adducts (n .gtoreq. 4) yielded fragments identical to those of Ub2, indicating that E225K ligates successive Ub mols. primarily or exclusively via Lys-48. Although several other E2s supported synthesis of an apparent Ub2 adduct of undetd. linkage, only E225K was capable of synthesizing multi-Ub chains from isolated Ub. Quant. anal. of single turnovers showed that transfer from E225K-Ub to Ub and Ub2 occurred with k2 = 488 and 1170 M-1 min-1, resp., at pH 7.3 and 37.degree.. These results show that increasing the no. of Ub mols. in a chain increases susceptibility to further ubiquitination by E225K. Ub2 was a good substrate for activation by E1 and was readily transferred to E225K. The labile E225K-Ub2 adduct was catalytically active, and exhibited preference for Ub2 (vs. Ub) as acceptor. These results suggest that E225K may function as a multi-ubiquitinating enzyme in the Ub-dependent proteolytic pathway.

L5 ANSWER 29 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1990:156557 HCAPLUS
DOCUMENT NUMBER: 112:156557
TITLE: Reagents and method for quantitation of bivalent antibody
INVENTOR(S): Kuroka, Shigeru; Sunahara, Noriyuki; Shirai, Akiko; Umibe, Kenzo
PATENT ASSIGNEE(S): Dainippon Pharmaceutical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01223351	A2	19890906	JP 1988-50847	19880303

PRIORITY APPLN. INFO.: JP 1988-50847 19880303

AB A quant. immunoassay of bivalent antibody is based on the activity measurement of the labeling substance of an antigen-antibody complex In-Ag.Ab.Ag-L (In = insol. carrier; Ag = antigen; Ab = bivalent antibody; L = label; . = antigen-antibody bonding; - = chem. bonding). Particularly, Ab is antibody to tumor necrosis factor (TNF), interleukin, or Escherichia coli protein; L is an enzyme; In is fragments of bacteria cell wall; the complex contains at least In-Ag and Ag-L. Thus, anti-TNF antibody in serum was treated with Lactobacillus plantarum cell wall fragment-immobilized antigen at 37.degree. for 30 min and then with .beta.-galactosidase-labeled antigen at 37.degree. for 30 min; the reaction mixt. was centrifuged and washed for sepn. of bound and unbound labeled antigen; and the ppt. was treated with buffer contg. 2-nitrophenyl-.alpha.-D-galactoside, ethylene glycol, and NaN3 for the enzyme activity measurement for anti-TNF antibody detn. The detection range was 78-620 .mu.g/mL.

L5 ANSWER 30 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1990:73414 HCAPLUS
DOCUMENT NUMBER: 112:73414
TITLE: Immunoreactive support material
INVENTOR(S): Mangold, Dieter; Noetzel, Siegfried; Lerch, Rolf; Jering, Helmut
PATENT ASSIGNEE(S): Boehringer Mannheim G.m.b.H., Fed. Rep. Ger.
SOURCE: Eur. Pat. Appl., 13 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 312907	A2	19890426	EP 1988-116972	19881013
EP 312907	A3	19901010		
EP 312907	B1	19940112		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
DE 3735684	A1	19890503	DE 1987-3735684	19871022

US 5177022	A	19930105	US 1988-236458	19880825
AT 100205	E	19940115	AT 1988-116972	19881013
ES 2049235	T3	19940416	ES 1988-116972	19881013
JP 01141354	A2	19890602	JP 1988-263038	19881020

PRIORITY APPLN. INFO.: DE 1987-3735684 19871022
EP 1988-116972 19881013

AB In an immunoreactive porous carrier bearing an immune complex for use in immunoassays, binding of the immune complex to the carrier is improved by treatment of the carrier with a waterproofing agent. Thus, a mixt. of polyester fibers 2.4, sulfite cellulose 0.6, and Tylose (waterproofing agent) 0.018 kg in 1000 L water was fabricated into paper, immersed in 0.5 wt.% NaCl soln., dried, impregnated with a complex of rabbit IgG-conjugated T4 and antibody to the Fc region of rabbit IgG, and treated with a conjugate of .beta.-D-galactosidase and anti-T4 antibody. Binding of the **enzyme-antibody conjugate** to the **carrier** was 99.3%, as detd. by centrifugal analyzer.

L5 ANSWER 31 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1988:451305 HCAPLUS
DOCUMENT NUMBER: 109:51305
TITLE: Immunoactive complexes, their manufacture and use in diagnosis
INVENTOR(S): Sugiura, Masakazu; Tanaka, Yasuhiko; Yoshida, Masaru; Kikutake, Junichiro
PATENT ASSIGNEE(S): Sanyo Chemical Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62182660	A2	19870811	JP 1986-25097	19860206

PRIORITY APPLN. INFO.: JP 1986-25097 19860206

AB Immunoactive substance are chem. bound to an OH group- and/or oxide group-contg., water-insol. carrier via a titanate coupler and, optionally, a crosslinking agent to form a water-insol. immunoactive complex for use as a diagnostic agent. Ground glass beads (6.5 mm diam.) were soaked in 1% iso-Pr tris(aminoethylaminoethyl)titanate-isopropanol soln., refluxed for 1 h, washed, treated with 2% glutaraldehyde at 30.degree. for 2 h, again washed, and finally treated with anti-human carcinoembryonic antigen antibody for sensitization for use in EIA.

L5 ANSWER 32 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1988:201344 HCAPLUS
DOCUMENT NUMBER: 108:201344
TITLE: Immunoactive complexes, their manufacture and use in diagnosis
INVENTOR(S): Sugiura, Masakazu; Tanaka, Yasuhiko; Yoshida, Masaru; Kikutake, Junichiro
PATENT ASSIGNEE(S): Sanyo Chemical Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent

LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62182661	A2	19870811	JP 1986-25098	19860206

PRIORITY APPLN. INFO.: JP 1986-25098 19860206

AB Immunoactive substances are chem. bound to an OH group- and/or oxide group-contg., water-insol. carrier via a zirconate coupling agent and, optionally, a crosslinking agent to form a water-insol. immunoactive complex for use as a diagnostic agent. Ground glass beads (6.5 mm diam.) were soaked in 1% LZ 97 (zirconate coupler), refluxed for 1 h, washed, treated with 2% glutaraldehyde at 30.degree. for 2 h, again washed, and finally treated with anti-human carcinoembryonic antigen antibody for sensitization for use in EIA.

L5 ANSWER 33 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1988:71725 HCAPLUS
DOCUMENT NUMBER: 108:71725
TITLE: Filtration method for detecting a member of a ligand-receptor pair, method for the preparation of a carrier to which this member is bonded and analysis equipment therefor
INVENTOR(S): Van Eijk, Ronald Victor Wilhelmus; Ijsselmuiden, Otto Emmamuel
PATENT ASSIGNEE(S): De Staat der Nederlanden Vertegenwoordigd Door de Minister van Welzijn, Volksgezondheid en Cultuur, Neth.
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 233385	A1	19870826	EP 1986-202387	19861229
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
NL 8600056	A	19870803	NL 1986-56	19860113
JP 62228166	A2	19871007	JP 1987-5879	19870113

PRIORITY APPLN. INFO.: NL 1986-56 19860113

AB A method for detecting a member of a ligand-receptor pair, e.g. antigen-antibody pair, involves passing a test liq. at a regulated velocity through a carrier of porous material contg. the other member covalently or noncovalently bonded and detecting the formation of the ligand-receptor complex. The prepn. of such a carrier is also disclosed. In the anal. equipment, a nitrocellulose membrane (pore size 0.45 .mu.m) was moistened, spotted with a suspension of Treponema pallidum in phosphate buffered saline (PBS) contg. 0.005% wt./vol. Zwittergent 3-14 under vacuum, dried 1 min, and washed under vacuum with PBS contg. 0.5% vol./vol. Tween 20. Patient serum dild. in PBS-Tween, buffer, and goat antihuman Ig-horseradish peroxidase conjugate were sequentially applied to the carrier and sucked through at 0.2 mL/cm2/min. The carrier was washed and treated with substrate soln. for 3 min. A greenish blue

spot against a white background indicated syphilis antibodies.

L5 ANSWER 34 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1987:552858 HCAPLUS
DOCUMENT NUMBER: 107:152858
TITLE: Human atrial natriuretic factor and its manufacture
INVENTOR(S): Hobden, Adrian; Dykes, Colin
PATENT ASSIGNEE(S): Glaxo Group Ltd., UK
SOURCE: Brit. UK Pat. Appl., 24 pp.
CODEN: BAXXDU
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 2180539	A1	19870401	GB 1986-18123	19860724
PRIORITY APPLN. INFO.:			GB 1985-18753	19850724

AB A fused DNA encoding a hybrid protein comprising human atrial natriuretic factor (ANF) polypeptide, a **linker protein** contg. a proteolytic **enzyme** recognition site, and a **carrier polypeptide** is constructed. The hybrid protein avoids the degrdn. of the short human ANF polypeptide by the proteases of the transformed host cells, e.g. Escherichia coli. Recombinant plasmid PTCX2 contg. a Tac promoter, a transcription terminator, the chloramphenicol acetyltransferase (CAT) structural gene, and XbaI and XhoI restriction sites was ligated with an ANF-Xba oligomer which contained an ANF-coding sequence and an XbaI recognition site to obtain expression vector pTCAX21. The fusion protein was purified from a lysate of cells transformed with pTCAX21, cleaved with Staphylococcus aureus V8 protease, and chromatographed to yield complete ANF.

L5 ANSWER 35 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1985:125291 HCAPLUS
DOCUMENT NUMBER: 102:125291
TITLE: Immobilized thrombolytic enzymes possessing increased affinity toward substrate
AUTHOR(S): Torchilin, V. P.; Maksimenko, A. V.; Tishchenko, E. G.; Ignashenkova, G. V.; Ermolin, G. A.
CORPORATE SOURCE: Cardiol. Res. Cent., Inst. Exp. Cardiol., Moscow, USSR
SOURCE: Annals of the New York Academy of Sciences (1984), 434(Enzyme Eng.), 289-91
CODEN: ANYAA9; ISSN: 0077-8923
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The **conjugate** of a dextran **carrier** with attached proteolytic **enzyme** (.alpha.-chymotrypsin) and polyclonal **antibody** towards fibrinogen was prepd.; the product contg. 50 mg active enzyme per g of carrier. The conjugate had greater activity in lysing fibrin clots than either .alpha.-chymotrypsin or dextran-.alpha.-chymotrypsin conjugates.

L5 ANSWER 36 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1984:528524 HCAPLUS

DOCUMENT NUMBER: 101:128524
TITLE: Polycarbonate-coated microsticks as solid-phase **carriers** in an **enzyme-linked** immunosorbent assay for rubella **antibody**
AUTHOR(S): Shekarchi, Isabel C.; Tzan, Nancy; Sever, John L.; Madden, David L.
CORPORATE SOURCE: Microbiol. Associates, Inc., Bethesda, MD, 20814, USA
SOURCE: Journal of Clinical Microbiology (1984), 20(3), 305-6
CODEN: JCMIDW; ISSN: 0095-1137
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The use of microsticks as solid-phase **carriers** in an **enzyme-linked** immunosorbent assay for rubella **antibody** was evaluated. The microstick enzyme-linked immunosorbent assay was found to be equal in sensitivity to plate and disk enzyme-linked immunosorbent assays and presumably more sensitive than hemagglutination and immunofluorescence assays. The microstick as a solid-phase carrier offers advantages over both plate and bead carriers.

L5 ANSWER 37 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1983:618679 HCAPLUS
DOCUMENT NUMBER: 99:218679
TITLE: Studies on the enzyme immunoassay of bioactive constituents contained in oriental medicinal drugs. II. Enzyme immunoassay of glycyrrhizin
AUTHOR(S): Kanaoka, Matao; Yano, Saburo; Kato, Hiromi; Nakano, Naoko; Kinoshita, Eiko
CORPORATE SOURCE: Fac. Med., Toyama Med. Pharm. Univ., Toyama, 930-01, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1983), 31(6), 1866-73
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Glycyrrhizinylamino acids were prepd. as haptens, and **conjugated** to bovine serum albumin (**carrier protein**) and .beta.-galactosidase (labeled **enzyme**) for the enzyme immunoassay of glycyrrhizin (I) [1405-86-3]. Rabbits were immunized with I-albumin conjugate, and the antibody was tested at several wk interval to det. the 50% binding amts. of I-enzyme conjugate. The measurable range was 0.2-20 mg/mL. The antiserum reacted with 18.alpha.-glycyrrhizin (47%) and liquiritic acid diglucuronide (9.6%).

L5 ANSWER 38 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1970:452478 HCAPLUS
DOCUMENT NUMBER: 73:52478
TITLE: Rabbit liver and rabbit kidney fructose diphosphatases: catalytic properties of enzymes activated by coenzyme A and acyl carrier protein
AUTHOR(S): Nakashima, Kunio; Horecker, Bernard L.; Traniello, Serena; Pontremoli, Sandro
CORPORATE SOURCE: Div. of Biol. Sci., Albert Einstein Coll. of Med., Bronx, NY, USA

SOURCE: Archives of Biochemistry and Biophysics (1970), 139(1), 190-9
CODEN: ABBIA4; ISSN: 0003-9861
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The catalytic properties of rabbit liver and rabbit kidney fructose diphosphatases are altered when these enzymes are treated with CoA or acyl carrier protein from Escherichia coli. The activity in the neutral pH range is increased several fold, and the pH optima are shifted from pH 8.8 to pH 7.5 in the presence of MgCl2, and from pH 9.1 to pH 8.2 when MnCl2 is the cofactor. Max. activity requires the presence of a chelating agent such as EDTA, histidine, or glycine. The untreated enzymes are inhibited by excess fructose 1,6-diphosphate, whereas the activated enzymes are not, although the Km for this substrate is increased by approx. 10-fold. The modified enzymes are also more sensitive to inhibition by AMP. The reactions with CoA or acyl carrier protein are prevented by the addn. of high concns. of substrate, but not by AMP. In the activated enzyme approx. 2 sulfhydryl groups appear to be blocked, and the changes in catalytic properties are reversed by treatment with sulfhydryl compds. such as cysteine or glutathione. This preliminary evidence indicates that activation involves the formation of disulfide **linkages** between CoA or acyl **carrier protein** and the **enzyme**. Activation by CoA or an ACP-like protein may represent a physiol. mechanism for the reciprocal control of gluconeogenesis and fatty acid synthesis.

L5 ANSWER 39 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1957:13434 HCAPLUS
DOCUMENT NUMBER: 51:13434
ORIGINAL REFERENCE NO.: 51:2915h-i,2916a
TITLE: Methods for linking enzymes to insoluble carriers
AUTHOR(S): Brandenberger, H.
CORPORATE SOURCE: Theodor Kocher Inst., Bern, Switz.
SOURCE: Congr. intern. biochim., Resumes communs., 3.degree. Congr., Brussels (1955) 29
DOCUMENT TYPE: Journal
LANGUAGE: English

AB cf. C.A. 48, 11506i; 50, 2709a. At present, 3 methods (thought to depend on covalent bonding of **proteins** to **carriers**) exist for **linking enzymes** to solid surfaces: azo-**linkages** between enzymes and diazotized polyaminostyrene, peptide linkages between proteins and carboxylic acid chloride resin, and azo-linkages between antigen and diazotized aminobenzylcellulose. In new work with the 1st 2 methods, adsorption of the protein (enzyme) on the carriers (undiazotized polyaminostyrene or resin with free carboxyl groups) gave prepns. of the same range of stability and enzymic activity as obtained with previously described procedures (no exptl. details). This indicates that adsorption and not covalent bonding is primarily responsible for the attachment of the protein. A new method (not described) was developed for linking proteins to solid polyisocyanatopolystyrenes.

(FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO' ENTERED AT 10:48:01 ON 06 MAR 2003)
L6 84 S L5
L7 47 DUP REM L6 (37 DUPLICATES REMOVED)

L7 ANSWER 1 OF 47 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2002-488718 [52] WPIDS
CROSS REFERENCE: 2001-626445 [72]
DOC. NO. NON-CPI: N2002-386262
DOC. NO. CPI: C2002-138779
TITLE: Assay for ubiquitin ligase activity, useful for identifying modulators, by measuring binding of labeled ubiquitin to ubiquitin ligase.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): HUANG, J; ISSAKANI, S D; PRAY, T R; SHEUNG, J
PATENT ASSIGNEE(S): (RIGE-N) RIGEL PHARM INC
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2002042083	A1	20020411	(200252)*		56

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2002042083	A1 CIP of	US 2000-542497	20000403
		US 2001-826312	20010403

PRIORITY APPLN. INFO: US 2001-826312 20010403; US 2000-542497 20000403
AN 2002-488718 [52] WPIDS
CR 2001-626445 [72]
AB US2002042083 A UPAB: 20020815
NOVELTY - Assay for ubiquitin ligase (UL) activity comprises (i) incubating tag1-ubiquitin (I), E1 (ubiquitin-activating enzyme), E2 (ubiquitin-**conjugating enzyme**/ubiquitin **carrier protein**) and E3 (UL) and (ii) measuring the amount of (I) bound to E3.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) identifying (M1) a modulator (A) of ubiquitination by incubating (I), test compound, E1, E2 and tag2-E3 and measuring amount of (I) bound to tag2-E3;

(2) assaying (M1) ubiquitination enzyme (UE) activity by incubating tag1-ubiquitin, tag2-ubiquitin (tags 1 and 2 are, respectively, label and quencher of a FRET (fluorescent resonant energy transfer) pair), E1, E2 and E3 and measuring the amount or rate of ubiquitination;

(3) identifying (A) (M2) by performing M1 in presence of test compound;

(4) composition for assaying ubiquitination comprising tag1- and tag2-ubiquitins, as defined in M1; and

(5) composition for assaying an ubiquitination modulator comprising composition of (4) plus a test compound.

USE - The method is particularly used to screen for modulators of UL activity (claimed).

ADVANTAGE - The method does not require a target protein (the ubiquitin substrate is ubiquitin itself), so eliminates the need for electrophoretic separation of ligated/unligated proteins, making

possible multi-well, high throughput screening. Many different combinations of E2 and E3 components can be used without having to identify specific substrates.
Dwg.0/17

L7 ANSWER 2 OF 47 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 2002428668 MEDLINE
DOCUMENT NUMBER: 22172889 PubMed ID: 12072434
TITLE: Transcription factor AP-2 interacts with the SUMO-conjugating enzyme UBC9 and is sumolated in vivo.
AUTHOR: Eloranta Jyrki J; Hurst Helen C
CORPORATE SOURCE: Cancer Research United Kingdom, Molecular Oncology Unit, Hammersmith Hospital, Du Cane Rd., London W12 0NN, United Kingdom.
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (2002 Aug 23) 277 (34) 30798-804.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200209
ENTRY DATE: Entered STN: 20020820
Last Updated on STN: 20030105
Entered Medline: 20020923

AB The members of the AP-2 family of transcription factors are developmentally regulated and have distinct yet overlapping functions in the regulation of many genes governing growth and differentiation. All AP-2 factors appear to be capable of binding very similar DNA recognition sites, and the determinants of functional specificity remain to be elucidated. AP-2 transcription factors have been shown to act both as transcriptional activators and repressors in a promoter-specific manner. Although several mediators of their activation function have been suggested, few mechanisms for the repression or down-regulation of transactivation have been described. In a two-hybrid screen for proteins interacting with AP-2 factors, we have identified the UBC9 gene that encodes the E2 (ubiquitin **carrier protein**)-**conjugating enzyme** for the small ubiquitin-like modifier, SUMO. The interaction domain resides in the C-terminal half of AP-2, which contains the conserved DNA binding and dimerization domains. We have detected sumolated forms of endogenous AP-2 in mammalian cells and have further mapped the in vivo sumolation site to conserved lysine 10. Transient transfection studies indicate that sumolation of AP-2 decreases its transcription activation potential, and we discuss the possible mechanisms for the observed suppression of AP-2 transactivation.

L7 ANSWER 3 OF 47 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 2002089315 MEDLINE
DOCUMENT NUMBER: 21659732 PubMed ID: 11709553
TITLE: Nucleolar delocalization of human topoisomerase I in response to topotecan correlates with sumoylation of the protein.
AUTHOR: Mo Yin-Yuan; Yu Yanni; Shen Zhiyuan; Beck William T
CORPORATE SOURCE: Department of Molecular Genetics, University of Illinois, Chicago, Illinois 60607, USA.

CONTRACT NUMBER: CA30103 (NCI)
CA40570 (NCI)
ES08353 (NIEHS)
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (2002 Jan 25) 277 (4) 2958-64.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200202
ENTRY DATE: Entered STN: 20020131
Last Updated on STN: 20030105
Entered Medline: 20020225

AB DNA topoisomerase (topo) I is an essential nuclear protein and a target for anticancer drug camptothecin derivatives. As a nuclear protein, topo I is concentrated in the nucleolus. However, this nucleolar distribution of topo I is dynamic. It has been shown recently that topo I rapidly moves out of the nucleolus (nucleolar delocalization) in response to topo I inhibitors. In the present study, we demonstrated that nucleolar delocalization of topo I is associated with its conjugation by SUMOs (small ubiquitin-like modifiers) in response to the topo I inhibitor topotecan. Time-course experiments revealed that SUMO-topo I conjugation occurred at as early as 5 min after drug treatment, which was earlier than its observed nucleolar delocalization. Furthermore, heat shock blocked sumoylation of topo I; it also blocked the nucleolar delocalization of topo I fusion proteins. UBC9 is an E2 (ubiquitin **carrier protein**)-**conjugating enzyme** essential for sumoylation. Although overexpression of wild-type UBC9 enhanced both sumoylation and nuclear delocalization of topo I, overexpression of a UBC9 dominant negative mutant attenuated topo I sumoylation and its nucleolar delocalization. Taken together, our results suggest that sumoylation of topo I might serve as an addressing tag for its nucleolar delocalization in response to topo I inhibitors.

L7 ANSWER 4 OF 47 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 3

ACCESSION NUMBER: 2001:447339 BIOSIS
DOCUMENT NUMBER: PREV200100447339
TITLE: Highly sensitive immunoassay based on a monoclonal antibody specific for (4-arginine)microcystins.
AUTHOR(S): Zeck, Anne; Eikenberg, Anja; Weller, Michael G. (1); Niessner, Reinhard
CORPORATE SOURCE: (1) Institute of Hydrochemistry, Technical University of Munich, Marchioninistr. 17, D-81377, Muenchen: michael.weller@ch.tum.de Germany
SOURCE: Analytica Chimica Acta, (16 August, 2001) Vol. 441, No. 1, pp. 1-13. print.
ISSN: 0003-2670.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English
AB The production and characterization of a monoclonal antibody (clone (MC10E7)) with extraordinary sensitivity and high selectivity for (4-arginine)microcystins is described. The immunogen used for the production of the antibody was synthesized using a novel coupling

chemistry to bind microcystin-LR(MC-LR) via dehydroalanine to the **carrier protein**. With a direct competitive **enzyme-linked** immunosorbent assay (ELISA) using MC10E7, IC50 values for MC-LR of 0.06 mug l-1 have been achieved. The detection limit for MC-LR was 6 ng l-1. The provisional guideline value proposed by the World Health Organization (WHO) is 1 mug l-1 for drinking water. All (4-arginine)microcystins show similar IC50 values and detection limits, whereas other MCs such as MC-LA, are not recognized. The affinity constant for MC10E7 was determined to be at least 7X1010 l mol-1. The antibody was tested for its robustness against interference of humic acids, pH, salt content, surfactants or organic solvents and was found to be very stable. MC-LR spiked water samples in the concentration range between 0.01 and 0.1 mug l-1 were measured and a mean recovery of 99.9+-16.4% was found. The antibody is well suited for sensitive analysis for MCs in drinking as well as surface water.

L7 ANSWER 5 OF 47 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-665197 [64] WPIDS
DOC. NO. NON-CPI: N2000-492973
DOC. NO. CPI: C2000-201562
TITLE: A substantially purified sortase-transamidase from a Gram-positive bacterium for use in the treatment and detection of Gram-positive bacterial infections.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): LIU, G; MAZMANIAN, S; SCHNEEWIND, O; TON-THAT, H
PATENT ASSIGNEE(S): (REGC) UNIV CALIFORNIA
COUNTRY COUNT: 90
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000062804	A2	20001026	(200064)*	EN	124
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW					
AU 2000042468	A	20001102	(200107)		
EP 1233780	A1	20020828	(200264)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
JP 2003506011	W	20030218	(200315)		126

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000062804	A2	WO 2000-US10198	20000413
AU 2000042468	A	AU 2000-42468	20000413
EP 1233780	A1	EP 2000-922254	20000413
		WO 2000-US10198	20000413
JP 2003506011	W	JP 2000-611940	20000413
		WO 2000-US10198	20000413

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000042468	A	Based on	WO 200062804
EP 1233780	A1	Based on	WO 200062804
JP 2003506011	W	Based on	WO 200062804

PRIORITY APPLN. INFO: US 1999-292437 19990415
AN 2000-665197 [64] WPIDS
AB WO 200062804 A UPAB: 20021105
NOVELTY - A substantially purified sortase-transamidase (I) from a Gram-positive bacterium, catalyzing a covalent cross-linking of the carboxyl terminus of a protein having a sorting signal to the peptidoglycan of a Gram-positive bacterium, the signal comprising a LPX3X4G motif where sorting involves cleavage between the fourth and fifth residues of the motif.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a nucleic acid (II) encoding (I);

(2) a nucleic acid (III) encoding a substantially purified sortase-transaminase from a Gram-positive bacterium, having a molecular weight of 23539 Da and catalyzing a covalent cross-linking of the carboxyl terminus of a protein having a sorting signal to the peptidoglycan of a Gram-positive bacterium, the signal comprising:

(a) a LPX3X4G motif;

(b) a substantially hydrophobic domain of at least 31 amino acids carboxyl to the motif; and

(c) a charged tail region with at least two positively charged residues (at least one being Arg) carboxyl to the hydrophobic domain and being located at residues 31-33 in the motif where X3 is any one of the naturally occurring L-amino acids and X4 is Ala, Ser or Thr and sorting occurs by cleavage between the fourth and fifth LPX3X4G residues, the nucleic acid sequence comprising a fully defined 605 bp sequence (given in the specification) or a complementary sequence with at least less than 15 (especially less than 2)% mismatch;

(3) a vector (IV) comprising (II) or (III) linked to at least one sequence controlling the expression or regulation of the amino acid;

(4) a host cell (V) comprising (IV);

(5) a substantially purified sortase-transamidase (VI) produced by culturing (V);

(6) a method for screening a compound for anti-sortase-transamidase activity comprising:

(a) providing (I), (VI) or an active fraction of a sortase-transamidase from a Gram-positive bacterium;

(b) performing an assay for sortase-transamidase in the presence/absence of the compound;

(c) comparing the enzymatic activity in the presence/absence of the compound;

(7) an antibody specific for (I) or (VI);

(8) a protein molecule comprising (I) or (VI) extended at its carboxyl terminus with a sufficient number of histidine residues to allow specific binding of the protein molecule to a nickel-sepharose column;

(9) a method for displaying a polypeptide on the surface of a Gram-positive bacterium comprising the steps of:

(a) expressing a polypeptide having a sorting signal comprising:

(1) a LPX3X4G motif;

(2) a substantially hydrophobic domain of at least 31 amino acids carboxyl to the motif; and

(3) a charged tail region with at least two positively charged residues (at least one being Arg) carboxyl to the hydrophobic domain and being located at residues 31-33 in the motif where X3 is any one of the 20 naturally occurring L-amino acids and X4 is Ala, Ser or Thr and sorting occurs by cleavage between the fourth and fifth LPX3X4G residues, the nucleic acid sequence comprising a fully defined 605 bp sequence (given in the specification) or a complementary sequence with at least less than 15 (especially less than 2)% mismatch;

(b) forming a reaction mixture comprising:

(i) the expressed polypeptide;

(ii) (I) or (VI); and

(iii) a Gram-positive bacterium having a peptidoglycan to which the sortase-transamidase can link the polypeptide; and

(c) allowing the sortase-transamidase to catalyze a reaction that cleaves the polypeptide with the signal motif and covalently cross-links the amino terminal portion of the cleaved polypeptide to the peptidoglycan to display the polypeptide on the surface of the Gram-positive bacterium;

(10) a method for displaying a polypeptide on the surface of a Gram-positive bacterium comprising the steps of:

(a) cloning a nucleic acid segment encoding a chimeric protein into a Gram-positive bacterium to generate a cloned chimeric comprising a carboxyl terminal sorting signal, the chimeric protein including the polypeptide to be displayed, the sorting signal as in (9)(a)(1);

(b) growing the bacterium in (a); and

(c) binding the polypeptide covalently to the cell wall by the enzymatic action of a sortase-transamidase expressed by the bacterium involving cleavage of the chimeric protein within the LPX3X4G motif so that the polypeptide is displayed on the surface of the bacterium is that it is accessible to a ligand;

(11) a polypeptide (VII) expressed on the surface of a Gram-positive bacterium by covalent linkage of an amino-acid sequence of LPX3X4 derived from the cleavage of an LPX3X4G motif where X3 is any one of the 20 naturally occurring L-amino acids and X4 is Ala, Ser or Thr so that the polypeptide is displayed on the surface of the bacterium is that it is accessible to a ligand;

(12) a covalent complex (VIII) comprising (VII) and an antigen or hapten covalently cross-linked to the polypeptide;

(13) a method for the diagnosis or treatment of a bacterial infection caused by a Gram-positive bacterium comprising:

(a) conjugating an antibiotic or detection reagent to a protein as described in (9)(a)(1); and

(b) introducing the conjugate to an organism infected with a Gram-positive bacterium in order to cause the conjugate to be sorted and covalently cross-linked to the cell walls of the bacterium;

(14) a conjugate (IX) as outlined in (13)(a);

(15) a composition comprising (IX) and a pharmaceutically acceptable carrier;

(16) a substantially purified protein (X) having at least 30 (especially 50)% similarity with the amino acid sequence of at least one of a fully defined 227 amino acid Staphylococcus aureus, 365 amino acid Actinomycetes naeslundii, 284 amino acid Enterococcus faecalis, 246 amino acid S. mutans, 283, 296 or 304 amino acid S. pneumoniae or 198 amino acid Bacillus subtilis sequence (given in

the specification) having sortase-transamidase activity;
(17) a nucleic acid (XI) encoding (X);
(18) a vector (XII) comprising (XI) linked to at least one sequence controlling the expression or regulation of the amino acid; and
(19) a host cell transformed with (XII).
ACTIVITY - Antibacterial; vaccine.
USE - The enzyme is useful in the treatment and detection of Gram-positive bacterial infections, especially immunocompromized patients having Mycobacterium infections. (I) and (VI) are useful for screening for expression of a cloned polypeptide (claimed).The transformed host cells are useful for the production of substantially purified sortase-transamidase (claimed). (VII) and (VIII) are useful as vaccines (claimed).
DESCRIPTION OF DRAWING(S) - The figure shows a diagram of the activity of the sortase-transamidase enzyme.
Dwg.1/14

L7 ANSWER 6 OF 47 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-259198 [23] WPIDS
DOC. NO. NON-CPI: N2000-192828
DOC. NO. CPI: C2000-079454
TITLE: **Enzyme-antibody** complex attached to a **carrier** where the components are covalently **linked** with thiol or maleimide groups useful for immunoassays.
DERWENT CLASS: A96 B04 D16 S03
INVENTOR(S): KITANO, Y; KITOH, T; OHABAYASHI, H; OHBAYASHI, H
PATENT ASSIGNEE(S): (NCHK) NICHIREI KK
COUNTRY COUNT: 27
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 992794	A2	20000412	(200023)*	EN	8
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
JP 2000088850	A	20000331	(200027)		6
US 6252053	B1	20010626	(200138)		
EP 992794	B1	20021113	(200282)	EN	
R: DE DK ES FR GB IT NL					
DE 69903899	E	20021219	(200307)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 992794	A2	EP 1999-105375	19990316
JP 2000088850	A	JP 1998-279319	19980916
US 6252053	B1	US 1999-268748	19990317
EP 992794	B1	EP 1999-105375	19990316
DE 69903899	E	DE 1999-603899	19990316
		EP 1999-105375	19990316

FILING DETAILS:

PATENT NO	KIND	PATENT NO

DE 69903899 E Based on EP 992794

PRIORITY APPLN. INFO: JP 1998-279319 19980916
AN 2000-259198 [23] WPIDS
AB EP 992794 A UPAB: 20000516
NOVELTY - An enzyme-antibody complex (I) comprising an enzyme with an introduced thiol group covalently conjugated to a carrier via an introduced maleimide group in that carrier, or an enzyme with an introduced maleimide group covalently conjugated to a carrier via an introduced thiol group in that carrier is new. A maleimide group is introduced into at least one amino group remaining in this complex and is covalently conjugated to an antibody or antibody fragment via a thiol group obtained by reduction of them.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) a kit for immunoassay containing (I); and
(2) production of (I).
USE - (I) is used to perform enzyme and immunohistochemistry immunoassays.
ADVANTAGE - Many enzyme and antibody molecules are attached to the carrier in (I) which increases the sensitivity of immunoassays using (I) compared to those using prior art immunoassay complexes.
Dwg.0/1

L7 ANSWER 7 OF 47 MEDLINE DUPLICATE 4
ACCESSION NUMBER: 2001054724 MEDLINE
DOCUMENT NUMBER: 20422134 PubMed ID: 10964435
TITLE: **Carrier-linked peptides** as a reference compound in **enzyme-linked** immunosorbent assays.
AUTHOR: Gijsbers B L; Vermeer C
CORPORATE SOURCE: Department of Biochemistry, University of Maastricht, Maastricht, 6200 MD, The Netherlands.
SOURCE: ANALYTICAL BIOCHEMISTRY, (2000 Sep 10) 284 (2) 430-2. Journal code: 0370535. ISSN: 0003-2697.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200012
ENTRY DATE: Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20001213

L7 ANSWER 8 OF 47 MEDLINE
ACCESSION NUMBER: 1999186655 MEDLINE
DOCUMENT NUMBER: 99186655 PubMed ID: 10088794
TITLE: The role of **carrier protein** in the sensitivity of **enzyme-linked** immunosorbent assay for antiribosomal P protein antibodies: further comment on the article by Yoshio et al.
COMMENT: Comment on: Arthritis Rheum. 1997 Jul;40(7):1364-5
AUTHOR: Hirohata S; Isshi K; Toyoshima S
SOURCE: ARTHRITIS AND RHEUMATISM, (1999 Mar) 42 (3) 593-4. Journal code: 0370605. ISSN: 0004-3591.
PUB. COUNTRY: United States
DOCUMENT TYPE: Commentary

Letter
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 199904
ENTRY DATE: Entered STN: 19990420
Last Updated on STN: 20000303
Entered Medline: 19990405

L7 ANSWER 9 OF 47 MEDLINE DUPLICATE 5
ACCESSION NUMBER: 1999231938 MEDLINE
DOCUMENT NUMBER: 99231938 PubMed ID: 10217586
TITLE: IgG subclass distribution of antibodies after vaccination of adults with pneumococcal conjugate vaccines.
AUTHOR: Soininen A; Seppala I; Nieminen T; Eskola J; Kayhty H
CORPORATE SOURCE: Department of Vaccines, National Public Health Institute (KTL), Helsinki, Finland..
anu.soininen@ktl.fi
SOURCE: VACCINE, (1999 Apr 9) 17 (15-16) 1889-97.
Journal code: 8406899. ISSN: 0264-410X.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: (CLINICAL TRIAL)
(CONTROLLED CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199907
ENTRY DATE: Entered STN: 19990715
Last Updated on STN: 19990715
Entered Medline: 19990708

AB The serum IgG subclass response of adults to Streptococcus pneumoniae (Pnc) capsular polysaccharides (PS) 6B, 14 and 23F was measured for four Pnc vaccines: the 23-valent PS vaccine or PS-protein conjugates with diphtheria toxoid (PncD), tetanus protein (PncT) or CRM197 **protein** (PncCRM) **carriers**. A standardized **enzyme-linked** immunosorbent assay specific for IgG subclasses was employed. This assay uses pneumococcal reference serum, lot 89-SF, to which anti-Pnc PS IgG subclass concentrations have been assigned. Both IgG1 and IgG2 responses were more frequent and higher in the conjugate groups than in the PS group. IgG subclasses in subjects vaccinated with PS displayed similar IgG2 predominant distribution previously observed in both natural and vaccine-induced antibodies. Antibodies induced by PncT, however, had a significantly altered IgG2/IgG1 ratio ($P < 0.05$), with a higher proportion of IgG1.

L7 ANSWER 10 OF 47 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.DUPLICATE 6
ACCESSION NUMBER: 1999104578 EMBASE
TITLE: The role of **carrier protein** in the sensitivity of **enzyme-linked** immunosorbent assay for antiribosomal P protein antibodies: Further comment on the article by Yoshio et al [7].
AUTHOR: Hirohata S.; Isshi K.; Toyoshima S.
CORPORATE SOURCE: Dr. S. Hirohata, Teikyo University School of Medicine, Tokyo, Japan
SOURCE: Arthritis and Rheumatism, (1999) 42/3 (593-594).

Refs: 5
ISSN: 0004-3591 CODEN: ARHEAW
COUNTRY: United States
DOCUMENT TYPE: Journal; Letter
FILE SEGMENT: 031 Arthritis and Rheumatism
LANGUAGE: English

L7 ANSWER 11 OF 47 MEDLINE DUPLICATE 7
ACCESSION NUMBER: 2000058647 MEDLINE
DOCUMENT NUMBER: 20058647 PubMed ID: 10591102
TITLE: Unusual amino acid usage in the variable regions of mercury-binding antibodies.
AUTHOR: Westhoff C M; Lopez O; Goebel P; Carlson L; Carlson R R; Wagner F W; Schuster S M; Wylie D E
CORPORATE SOURCE: School of Biological Sciences, University of Nebraska, Lincoln.
SOURCE: PROTEINS, (1999 Nov 15) 37 (3) 429-40.
Journal code: 8700181. ISSN: 0887-3585.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals; Space Life Sciences
ENTRY MONTH: 200003
ENTRY DATE: Entered STN: 20000314
Last Updated on STN: 20000314
Entered Medline: 20000301

AB Monoclonal antibodies (mAb) specific for mercuric ions were isolated from BALB/c mice injected with a mercury-containing, hapten-**carrier** complex. The **antibodies** reacted by **enzyme-linked** immunosorbent assay with bovine serum albumin-glutathione-mercuric chloride (BSA-GSH-HgCl) but not with BSA-GSH without mercury. Nucleotide sequences from polymerase chain reaction products encoding six of the antibody heavy-chain variable regions and seven light-chain variable regions revealed that all the antibodies contained an unpaired cysteine residue in one hypervariable region, which is unusual for murine antibodies. Mutagenesis of the cysteine to either tyrosine or serine in one of the Hg-binding antibodies, mAb 4A10, eliminated mercury binding. However, of two influenza-specific antibodies that contain cysteine residues at the same position as mAb 4A10, one reacted with mercury, although not so strongly as 4A10, whereas the other did not react at all. These results suggested that, in addition to an unpaired cysteine, there are other structural features, not yet identified, that are important for creating an appropriate environment for mercury binding. The antibodies described here could be useful for investigating mechanisms of metal-protein interactions and for characterizing antibody responses to structurally simple haptens.

L7 ANSWER 12 OF 47 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 8
ACCESSION NUMBER: 2000:97874 BIOSIS
DOCUMENT NUMBER: PREV200000097874
TITLE: Detection of serum IgE antibody directed to aminothiazole using immobilized cephalosporins without protein conjugation.
AUTHOR(S): Yokoyama, Akihito (1); Kohno, Nobuoki; Sakai, Kimiko; Katayama, Hitoshi; Irifune, Kazunori; Kondo, Keiichi; Hirasawa, Yutaka; Hiwada, Kunio

CORPORATE SOURCE: (1) Second Department of Internal Medicine, Ehime University School of Medicine, Onsen-gun, Ehime, 791-0295 Japan
SOURCE: Allergology International, (Dec., 1999) Vol. 48, No. 4, pp. 303-308.
ISSN: 1323-8930.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English
AB It is well known that allergic reactions may sometimes occur in patients under treatment with beta-lactam antibiotics. For the detection of antidrug antibodies in vitro, conjugation with human serum albumin has been considered to be essential. In this study, we found that cefotiam, cefpirome, and ceftazidime could be immobilized without **conjugation** to **carrier protein** to construct a solid-phase **enzyme-linked** immunosorbent assay (ELISA) system. We describe a patient (26-year-old female nurse) with contact urticaria induced by antibiotics. Using the serum of this patient, we successfully detected IgE antibody directed to the aminothiazolyl group of cephalosporins, which has not previously been reported. Results suggest that the simple ELISA using unconjugated antibiotics could be applicable to patients with allergy to some cephalosporins and the aminothiazole side chain of the cephalosporins could cause an IgE-mediated allergic reaction.

L7 ANSWER 13 OF 47 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1996-077342 [08] WPIDS
DOC. NO. NON-CPI: N1996-064354
DOC. NO. CPI: C1996-025579
TITLE: **Conjugates** of nucleoside analogues with antigenic **carrier** or **enzyme** - useful for raising specific **antibodies** and as reagents for immunoassay of the analogues, partic. ATP or metabolites of AZT.
DERWENT CLASS: B02 B03 B04 D16 S03
INVENTOR(S): CREMINON, C; GRASSI, J; LEBEAU, L; MIOSKOWSKI, C; PRADELLES, P; SAADY, M
PATENT ASSIGNEE(S): (CNRS) CNRS CENT NAT RECH SCI; (COMS) COMMISSARIAT ENERGIE ATOMIQUE; (CNRS) CENT NAT RECH SCI
COUNTRY COUNT: 18
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9600585	A1	19960111	(199608)*	FR	78
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE					
W: JP US					
FR 2721931	A1	19960105	(199609)		60

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9600585	A1	WO 1995-FR872	19950629
FR 2721931	A1	FR 1994-8096	19940630

PRIORITY APPLN. INFO: FR 1994-8096 19940630
AN 1996-077342 [08] WPIDS
AB WO 9600585 A UPAB: 19960227
Conjugates (A) of (a) a di- or tri-phosphate analogue of formula (I) and (b) an antigenic carrier (II) or enzyme (II) are new.

n = 0 or 1; X1, X2 = CH2, CHF, CF2, CCl2, CHCl or NR6; R6 = H, alkyl, aryl or aralkyl, and may be same or different when n = 1, or together 2R6 form a hydrocarbyl chain that includes a phenyl ring; R1-R4 = H, NH4+, quat. ammonium ion or M+1/v; M = metal of valency v; R5 = gp. derived from a nucleoside; (I) is coupled either via R5 or via R1-R4, and when n = 0, X1 cannot be CH2.

USE - (A) that contain (II) are used to raise antibodies (Ab) specific for cpds. of formula (V); those that contain (III) are used to assay (V) by competitive immunoassay against Ab. Esp. (V) is ATP or metabolites of an antiviral nucleosides, partic. AZT (esp. for monitoring metabolism of such drugs to allow adjustment of dosage).

ADVANTAGE - (A) are able to generate Ab very specific for (V); contain stable (non-hydrolysable) phosphate bonds and mimic very precisely natural phosphate bonds.

Dwg.0/1

L7 ANSWER 14 OF 47 MEDLINE DUPLICATE 9
ACCESSION NUMBER: 96413822 MEDLINE
DOCUMENT NUMBER: 96413822 PubMed ID: 8816957
TITLE: Presentation of peptide antigens as albumin conjugates for use in detection of serum antibodies by enzyme-linked immunosorbent assay.
AUTHOR: Yu Z; Carter J M; Huang S Y; Lackland H; Sigal L H; Stein S
CORPORATE SOURCE: Center for Advanced Biotechnology and Medicine, Piscataway, New Jersey 08854, USA.
SOURCE: BIOCONJUGATE CHEMISTRY, (1996 May-Jun) 7 (3) 338-42. Journal code: 9010319. ISSN: 1043-1802.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199610
ENTRY DATE: Entered STN: 19961106
Last Updated on STN: 20000303
Entered Medline: 19961021
AB The use of linear peptides as antigens for detection of serum antibodies has been studied using a sequence of the Borrelia burgdorferi protein, flagellin, and Lyme disease sera as a model. It was found that a novel presentation of the peptide as a hapten on the **carrier protein**, bovine serum albumin, in the **enzyme-linked** immunosorbent assay format can be successfully applied to distinguish between Lyme disease and control sera.

L7 ANSWER 15 OF 47 MEDLINE DUPLICATE 10
ACCESSION NUMBER: 96132919 MEDLINE
DOCUMENT NUMBER: 96132919 PubMed ID: 8550577
TITLE: Isolation, characterization, and partial purification of a novel ubiquitin-protein ligase, E3. Targeting of protein substrates via multiple and distinct recognition signals and conjugating enzymes.
AUTHOR: Gonen H; Stancovski I; Shkedy D; Hadari T; Bercovich